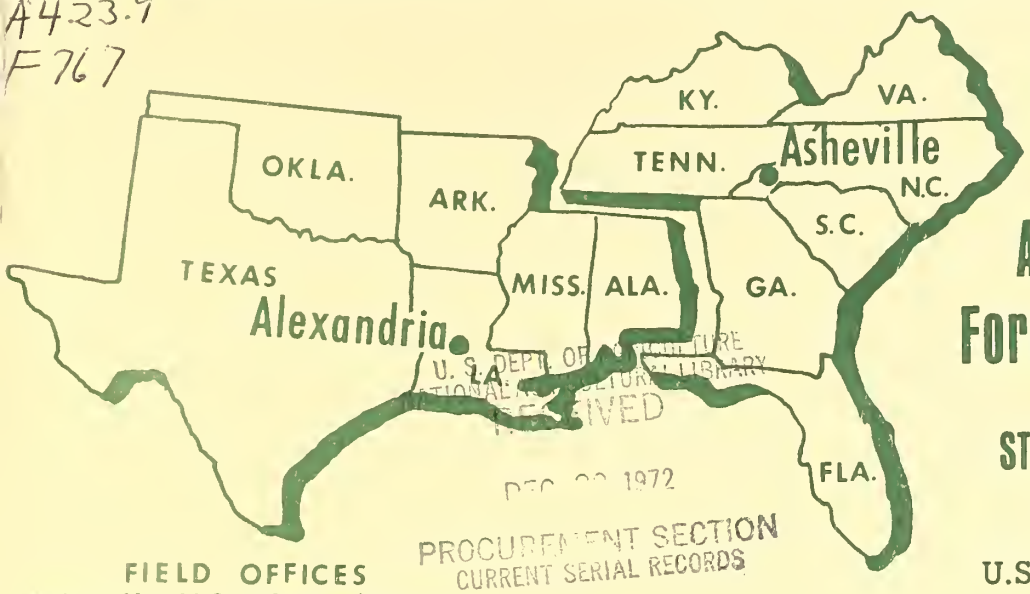
Southern Forest Pest Reporter



FIELD OFFICES
Asheville, N.C.-Alexandria, La.

ENVIRONMENTAL PROTECTION AND IMPROVEMENT

Forest Pest Management

Southeastern Area
STATE AND PRIVATE FORESTRY

FOREST SERVICE
U.S. DEPT OF AGRICULTURE
November 1972

1720 PEACHTREE ST. N.W. ATLANTA GA. 30309

SUMMARY OF CONDITIONS

.... Southern pine beetle outbreaks continued to be explosive in the Southeastern Area. Widespread timber losses and high beetle populations are occurring in Alabama, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Tennessee, and Virginia. Activity has also been detected in Arkansas.

.... Ips engraver beetles were increasing in Arkansas, Florida, Louisiana, Mississippi, and Texas. This has been due to drought and moisture stress in addition to lightning strikes.

.... The gypsy moth trapping program yielded increased catches of male moths in North Carolina, South Carolina, Tennessee, and Virginia. No moths were trapped in Alabama, Florida, Georgia, and Kentucky.

.... Annosus root rot has caused severe damage to a number of loblolly and slash pine plantations on the Savannah River Project, South Carolina. It is also becoming established in a number of recently thinned stands of the Yazoo-Little Tallahatchie Flood Prevention Project in northern Mississippi.

.... Preliminary results of an evaluation to determine the feasibility of testing loblolly and slash pine seedling resistance to fusiform rust are very promising. The method will be operationally tested soon on unknown seed lots using automated inoculation equipment.

.... Cylindrocladium root rot has been isolated from 14 southern forest tree nurseries. Black walnut and yellow poplar are the two species most severely affected.

STATUS OF FOREST INSECTS

Pine Bark Beetles

SOUTHERN PINE BEETLE, Dendroctonus frontalis Zimm.

ALABAMA

The southern pine beetle continued to cause widespread timber losses in pine stands throughout much of Alabama. Thus far, 17 MMBF has been salvaged due to this outbreak. It was estimated that an additional 82 MMBF were infested. A 43 percent increase in the number of infested trees during the last three months indicated that further widespread losses could be expected. (Alabama Forestry Commission)

Results of the fall evaluations revealed that outbreak conditions existed on the Bankhead, Conecuh, Talladega, and Tuskegee National Forests. The outbreaks were particularly severe on the Talladega and Black Warrior Ranger Districts. The outbreak on the Conecuh National Forest was at a relatively low level. The National Forests in Alabama have salvaged 2,977 MBF since July 1, 1972.

ARKANSAS

Southern pine beetle activity in Arkansas was detected in Union County as well as in Ashley County. Seventeen new spots were aerially detected in October and of these, nine were found to be actively infested. Ground investigation was in progress on the other eight. Activity in Ashley County seems to have leveled off. Salvage efforts were proceeding faster than the rate of spread of the infestation. (Arkansas Forestry Commission)

GEORGIA

A cooperative evaluation of southern pine beetle infestations was conducted by the U. S. Forest Service and the Georgia Forestry Commission during September and October. The evaluation covered more than nine million acres in central and north Georgia. Extremely heavy infestations were found in 10 of the total 46 counties infested. The Atlanta urban area was one of the most seriously affected areas of the State. There were an estimated 146,000 infested trees with a volume of 16,000 cords within the 46 county survey area. Salvage efforts were underway.

High populations of southern pine beetle were also active on the Chattooga and Tallulah Districts of the Chattahoochee National Forest covering 463 M acres in north Georgia. There were an estimated 222 MBF of currently infested timber in 278 spots on these two districts. Since July, 943 MBF of timber have been salvaged. Heavy infestations also continued on 213,000 acres of the Uncle Remus Ranger District, Oconee National Forest, the Piedmont National Wildlife Refuge, and the Hitchiti Experimental Forest. Recent survey results indicated 13,392 infested trees in 1221 spots within the survey area. Since July 1, 1,567 MBF of timber were salvaged from the area.

SOUTHERN PINE BEETLE (Cont'd)

LOUISIANA

Southern pine beetle activity declined this fall for the first time since the start of the outbreak in September 1971. Even with the decline in activity losses continued at a high level. Almost 12 MMBF and 18 M cords were salvaged by the State during the past three months. Total salvage figures since the start of the epidemic exceed 33 MMBF and 46 M cords. (Louisiana Forestry Commission)

The results of a recent biological evaluation on 6 million acres of infested land cooperatively performed by the Forest Pest Management Group and the Louisiana Forestry Commission indicated an estimated 83 infested trees per M acres of host type. Brood densities were 248 per square foot of bark surface.

MISSISSIPPI

A recent survey completed by the Mississippi Forestry Commission revealed southern pine beetle populations in outbreak proportions in 9 southwestern counties. The presence of the beetle was also verified for the first time in 4 east central counties bordering Alabama. Moderately high infestations were found over the 1.6 million acre survey area. Relatively low brood counts of 50 per square foot of bark surface were obtained on the eastern side of the State while the brood counts from the southwestern counties averaged 172 per square foot. (Mississippi Forestry Commission)

A fall biological evaluation of the infestation on the Homochitto National Forest (which is contiguous with the 9 southwestern counties) revealed heavy population levels. Brood densities of 366 per square foot of bark surface indicated the potential for continued high populations. The State has salvaged 3 MMBF since January 1, 1972, and the National Forests have salvaged 700 MBF since July 1, 1972.

NORTH CAROLINA

Southern pine beetle populations built up rapidly during the summer months. Recently completed biological evaluations by the North Carolina Forest Service indicated an estimated 2,494 southern pine beetle spots concentrated in the piedmont and mountain sections of the State. The volume of timber attacked exceeded 600,000 cubic feet. Recent surveys also indicated an estimated 40 spots containing 1,500 infested trees within the city limits of Chapel Hill, North Carolina. Intensive salvage programs to remove infested trees were initiated in rural areas and the city of Chapel Hill by the North Carolina Forest Service.

On the National Forests in North Carolina a summer evaluation of southern pine beetle infestations on the 406,527-acre Tusquitee Ranger District, Nantahala National Forest, revealed a rapidly expanding beetle population. Survey data showed approximately 19 spots and an estimated 116 infested trees per M acres of host type. An estimated 1.1 MMBF of actively infested timber were involved. The District salvaged nearly 700 MBF of infested timber since July 1, 1972.

SOUTHERN PINE BEETLE (Cont'd)

NORTH CAROLINA (Cont'd)

A late summer evaluation of the Uwharrie National Forest revealed 74 spots containing 2,548 southern pine beetle-attacked trees; 773 of these were currently infested. The Forest salvaged over 300 MBF of infested timber since July 1, 1972.

SOUTH CAROLINA

The State of South Carolina also experienced drastic increases in southern pine beetle activity. The outbreak in South Carolina consisted of nearly 3.6 million acres of State and private lands in nine counties. The area of heaviest infestation was the northwestern corner of the State. Two thousand five hundred cords and 100 MBF of infested timber were salvaged between July and October 1972. (South Carolina State Commission of Forestry)

On National Forest lands in South Carolina infestation levels were high and increasing. The 414,701-acre Francis Marion National Forest had 695 spots containing 6,000 infested trees. The Forest salvaged 163 MBF since July 1, 1972.

The 208,244-acre Long Cane Ranger District of the Sumter National Forest had 103 spots containing 1,066 trees of which 363 trees were infested. Since July 1, 1972, the District salvaged 829 MBF of timber. The 400,000-acre Enoree Division of the Sumter National Forest had 296 spots containing 10,332 attacked trees. They salvaged over 1.3 MMBF since July 1, 1972.

TEXAS

Even though southern pine beetle activity appeared to decline during the fall months, the number of new infestations detected was triple that of last fall. (Texas Forest Service)

Biological evaluations performed in late summer revealed very high infestation levels on the Davy Crockett and Sam Houston National Forests. Brood counts of $366/ft^2$ and $331/ft^2$ for the above Forests, respectively, indicated potential for further spread.

A recent survey completed on the Sabine National Forest showed that southern pine beetle activity remained at moderately high levels. A similar survey completed on the Angelina National Forest revealed very little southern pine beetle activity. This may be due in part to the extensive salvage activities on the Forest. Over 888 MBF have been salvaged since July 1, 1972. An additional 15 MMBF has been salvaged by the State since January 1, 1972.

VIRGINIA

Southern pine beetle infestations have increased to high levels on more than 4.5 million acres in 16 central piedmont counties. More than 1,300 spots were detected in the outbreak area. Six thousand four hundred cords were salvaged during the outbreak. (Virginia Division of Forestry).

BLACK TURPENTINE BEETLE, Dendroctonus terebrans (Oliv.)

ARKANSAS — A few areas reported increased activity primarily due to moisture stress and lightning struck trees. Infested trees were being removed by salvage. (Arkansas Forest Pest Report)

MISSISSIPPI — An increase in black turpentine beetle activity was observed in several areas throughout the State. It was felt that the increase was due to an extremely dry summer. (Mississippi Forestry Commission)

NORTH CAROLINA — Black turpentine beetle was reported attacking white, shortleaf, loblolly, and longleaf pines in Stanley, Caldwell, Moore, Richmond, and Chatham Counties. (North Carolina Forest Service)

TEXAS — Districts 1 and 5 reported increased activity this fall. High value shade trees were treated with BHC. (Texas Forest Service)

VIRGINIA — Spots of up to 10 trees were detected in the Coastal Plain and Piedmont sections of the State. (Virginia Division of Forestry)

IPS ENGRAVER BEETLES, Ips sp.

ARKANSAS — The same areas experiencing an increase in black turpentine beetle had engraver beetles associated with them. Moisture stress and lightning were believed to be the cause. (Arkansas Forest Pest Report)

FLORIDA — Results of a 1972 statewide survey indicated a 38 percent increase in insect-caused tree mortality, primarily by Ips engraver beetles. An estimated two million trees representing 250,000 cords were killed during 1972. (Florida Division of Forestry)

LOUISIANA — Much of the bark beetle activity and associated losses in the northwest corner of the State this fall were attributed to Ips beetles. (Louisiana Forestry Commission)

MISSISSIPPI — A general increase in Ips beetle activity occurred in the same areas experiencing buildups of the black turpentine beetle. A very dry summer was the cause. (Mississippi Forestry Commission)

TEXAS — An increase in engraver beetle activity occurred in the northeastern Districts 1 and 2. These spots were being salvaged. (Texas Forest Service)

PINE DEFOLIATORS

SAWFLIES, Neodiprion sp.

ARKANSAS — Infestations of the red-headed pine sawfly, Neodiprion lecontei (Fitch), were reported in Columbia, Hempstead, and Saline Counties. (Arkansas Forest Pest Report)

SAWFLIES (Cont'd)

SOUTH CAROLINA — The red-headed pine sawfly, (N. lecontei), caused some serious defoliation in the longleaf (Pinus palustris), shortleaf (P. echinata) and loblolly (P. taeda) pine geographic sources on the Francis Marion Seed Orchard. Despite a low level infestation, several trees were completely defoliated.

TEXAS — The red-headed pine sawfly defoliated loblolly pine in Wood, Rusk, Panola, Colorado, and Walker Counties, Texas. A report of 500 infested loblolly pine came from Walker County.

HARDWOOD DEFOLIATORS

GYPSY MOTH, Porthetria dispar (L.)

ALABAMA — Alabama completed their gypsy moth detection program for this year. Their 325 traps yielded negative results. (Alabama Forestry Commission)

FLORIDA, GEORGIA, & KENTUCKY — No male gypsy moths were trapped during 1972 in Kentucky, Georgia, or Florida.

NORTH CAROLINA — The 1972 gypsy moth male trapping program in North Carolina caught a single male moth in Davie, Orange, Johnston, Wayne, Carteret, Cleveland, and Dare Counties. All but two moths were trapped near rest areas or campgrounds. (Animal and Plant Health Inspection Service, USDA)

SOUTH CAROLINA — Five gypsy moth males were trapped in Charleston, Sumter and Horry Counties in South Carolina during 1972. (Animal and Plant Health Inspection Service, USDA)

TENNESSEE — Two male gypsy moths were trapped in Cocke and Sevier Counties in eastern Tennessee. These counties adjoin one another along the North Carolina State line. (Animal and Plant Health Inspection Service, USDA)

VIRGINIA — Two hundred and fifteen male gypsy moths were trapped from 25 counties in Virginia during the 1972 trapping season. The largest number of moths was taken from eastern shore counties. No active infestations were detected. (Animal and Plant Health Inspection Service, USDA)

VARIABLE OAK LEAF CATERPILLAR, Heterocampo manteo (Dbldy.)

ARKANSAS — Heavy populations of variable oak leaf caterpillar were not as extensive this year as in the past two years. Defoliation, however, occurred in 15-20 acre blocks all the way from Ozark to the Louisiana line and was worse in the western tier counties. Diseases and parasites were observed attacking the caterpillars. Heavy defoliation occurred from

VARIABLE OAK LEAF CATERPILLAR (Cont'd)

ARKANSAS (Cont'd) — Texarkana to the Hooks, Texas area. Populations were heavy enough to litter patios in the Fordyce Area. (Arkansas Forest Pest Report)

TEXAS — This insect was found in scattered areas throughout eastern Texas. (Texas Forest Service)

FALL WEBWORM, Hyphantria cunea (Drury)

ARKANSAS — Both the red and black-headed strains of fall webworm were common in the southern two-thirds of Arkansas. This was the second brood of the red-headed strain and the third brood of the black-headed strain. A partial second brood of red-headed webworm was still active in northwest Arkansas.

WALKINGSTICK, Diapheromera femorata (Say)

ARKANSAS — Widespread defoliation over 16,000 acres was reported on the Ozark National Forest, Arkansas. Walkingstick defoliation was present for the fourth straight year on the Ouachita National Forest. An estimated 25,000 acres of upland hardwood were defoliated. Defoliation was light compared with the last 3 years.

ORANGE-STRIPED OAKWORM, Anisota senatoria (J. E. Smith)

LOUISIANA & TEXAS — Red oaks from Woodville, Texas, to Leesville, Louisiana, and from Lufkin, Texas, to Shreveport, Louisiana, were moderately to heavily defoliated. Defoliation took place very late in the growing season.

SPINY OAKWORM, Anisota stigma (F.)

TEXAS — This insect caused defoliation in areas scattered throughout eastern Texas. (Texas Forest Service)

YELLOW-NECKED CATERPILLAR, Datana ministra (Drury)

ARKANSAS & LOUISIANA — Hardwoods were defoliated throughout the State. (Arkansas Forest Pest Report) Medium to heavy defoliation occurred in the Leesville and Shreveport areas. This pest was often associated with the orange-striped oakworm. (Louisiana Forestry Commission)

WALNUT CATERPILLAR, Datana integerrima (G. & R.)

TEXAS — Several pecan orchards in Liberty and Hardin Counties were totally defoliated by this insect. (Texas Forest Service)

SEED ORCHARD INSECTS

NANTUCKET PINE TIP MOTH, Rhyacionia frustrana (Comst.)

ARKANSAS — Nantucket pine tip moth damage increased from light this spring to moderate during late summer and fall at the Ouachita Seed Orchard.

LOUISIANA — The tip moth population was reduced considerably over the population a year ago at the Stuart Seed Orchard. This insect continued to be a chronic problem on shortleaf pine in the Orchard despite five well-timed dimethoate spray treatments.

MISSISSIPPI — Control measures kept damage levels of pine tip moth to less than 1 percent during late summer and fall at the Erambert Seed Orchard.

NORTH CAROLINA — A late season upsurge in the Nantucket pine tip moth population on the Beech Creek Seed Orchard was observed despite spraying. In one portion of a shortleaf pine geographic source that was left unsprayed because of a pesticide shortage, the infestation level reached 88 percent versus 40 percent for the treated portion.

SOUTH CAROLINA — Suppression activities for tip moth on the Francis Marion Federal Seed Orchard during 1972 were successful. Populations were kept at low levels and damage held to tolerable levels.

CONEWORMS, Dioryctria sp.

LOUISIANA — First year loblolly conelet loss caused by Dioryctria sp. this year at the Stuart Seed Orchard was 1.5 percent. This was determined during a study by the Southern Forest Experiment Station on causes of conelet abortion.

MIDGE, Contarinia sp.

MISSISSIPPI — The midge, Contarinia sp., discovered a year ago on the Erambert Seed Orchard continued to cause needle mortality on loblolly pine at the Orchard during late summer.

LOUISIANA — PINE TORTOISE SCALE, Toumeyella numismaticum (P. & McD.), increased this summer on the Stuart Seed Orchard with an occasional heavy population on loblolly and shortleaf pines. Predators and parasites apparently reduced populations of this pest this fall.

TEXAS — Observations in Texas Forest Service Seed Orchards revealed relatively low insect activity during the third quarter. Losses during this period were expected to be greatest in second year cones as they neared maturity. Due to a spring freeze in 1971 that killed female strobili, cone numbers and insect populations were at an unusually low level. Losses of first year cones apparently stabilized with the number of insect-killed and aborted cones negligible for this quarter. Overall conelet loss for the year remained at less than 3 percent. (Texas Forest Pest Activity Report)

REPRODUCTION WEEVILS

PALES WEEVIL, Hylobius pales (Herbst)

NORTH CAROLINA — A cooperative field experiment to find a substitute for DDT and Aldrin for controlling the pales weevil, H. pales (Herbst), will soon be concluded. The project was conducted jointly by the Southeastern Forest Experiment Station and the Forest Pest Management Group to test the efficacy of carbofuran and Dursban under field conditions. These insecticides were chosen after exhaustive tests of more than 40 compounds by the Pesticide Screening Laboratory at Berkeley, California. They were selected because they were reasonably safe to handle, highly toxic to the weevil, and would have a minimum adverse impact on the environment.

MISCELLANEOUS INSECTS

DEODAR WEEVIL, Pissodes nemorensis Germ.

ARKANSAS — Large numbers of this weevil emerged in Hempstead County. (Arkansas Forest Pest Report)

TENNESSEE — Deodar weevil damage to terminals of loblolly pine occurred throughout western Tennessee. Damage was most prevalent in understocked stands and open grown trees. (Tennessee Division of Forestry)

BALSAM WOOLLY APHID, Adelges piceae (Ratz.)

NORTH CAROLINA — Preliminary results of a cooperative trapping program conducted by the Forest Pest Management Group indicated an overall increase in aphid populations within the survey areas. Suppression activities were initiated on a 40-acre area within the control zone of Mount Mitchell State Park. As previously reported, suppression action was also taken in 1972 on Roan Mountain of the Toecane Ranger District of the Pisgah National Forest.

STATUS OF FOREST DISEASES

FOREST AND PLANTATION DISEASES

ANNOSUS ROOT ROT caused by Fomes annosus (Fr. and Cke.)

MISSISSIPPI — In 1944 the Yazoo-Little Tallahatchie Flood Prevention Project was established to rebuild the desolated environment caused by a century of land abuse in north central Mississippi. One phase of the project involved the reduction of soil erosion by planting thousands of acres in pine. Many of the early plantations thus established have been thinned and tree mortality caused by Fomes annosus has been observed in numerous stands.

ANNOSUS ROOT ROT (Cont'd)

MISSISSIPPI (Cont'd)

Over the next 10 years more than 500,000 acres of pine plantations will become available for thinning. Project foresters are therefore concerned about the possibility of increased tree mortality due to this pathogen. Therefore, a biological evaluation was initiated November 5, 1972, to determine the distribution and damage potential of F. annosus throughout the Y-LT Project. Initially pine plantations which were thinned only once 5 or more years ago will be evaluated. Thus far, 92 percent of the total number of plantations, which have been intensively examined, were infected with F. annosus.

SOUTH CAROLINA

An evaluation on the Savannah River Project near Aiken, South Carolina of 16 Fomes annosus infected loblolly and slash pine plantations revealed many of the stands to be severely deteriorated due to the disease. In 12 of the stands, greater than 20 percent of the trees were dead or revealed infection symptoms. The percentage total infection ranged from 2 to 55 percent and the mean total infection was 27 percent. In one stand 40 percent of the trees were dead with 15 percent of the live trees showing obvious infection. This particular problem is attributed to widespread thinning and well-drained sandy soils of agricultural history. Management plans have been revised now to include stump treatment in thinning operations.

OAK WILT, Caused by Ceratocystis fagacearum (Bretz) Hunt

NORTH CAROLINA

Results of the annual oak wilt survey in western North Carolina conducted by the North Carolina Division of Forestry showed an increase in the disease incidence as compared to 1971. Thirty-one positive cultured trees were detected in 26 infection centers in four counties. Disease incidence was again concentrated in Haywood County where over 80% of the infected trees were found. No control work was conducted again this year. More recently, oak wilt has been detected and diagnosed by North Carolina State University Pathologists near Kinston (Eastern), North Carolina. Eighteen live and water oak shade trees are infected in a homeowner's yard and most of these trees are already dead or dying. Affected trees range in size from over 4 ft. d.b.h. to less than 6 in. d.b.h. Symptoms developed following severe spring and summer windstorms in 1972.

WHITE PINE BLISTER RUST, Caused by Cronartium ribicola Fischer

NORTH CAROLINA

White pine blister rust Ribes eradication control work was conducted in six high-hazard western North Carolina counties by the North Carolina Division of Forestry during the 1971-72 control season. Field survey work was conducted on 16,779 acres while Ribes eradication was employed on 68 acres. The herbicide, 2-4-5-T, was used in this work. During this time 193 private landowners were assisted. Sixty-six percent of the total plantings involved were in Christmas tree production.

COMANDRA BLISTER RUST, Caused by Cronartium comandrae Pk.

TENNESSEE — Final results obtained from a U. S. Forest Service - Tennessee Division of Forestry cooperative permanent plot study on the Cumberland Plateau in eastern Tennessee showed 13 percent rust infection and 8 percent rust-caused mortality during the past five years. Rust infection ranged from 2 to 33 percent and mortality from 1 to 23 percent. Rust infection was most abundant in the youngest age group, 1 to 5 years old, and there was also an observed association and apparent correlation between the incidence of rust infection and proximity and abundance of false toadflax - the alternate host for the rust in eastern Tennessee.

FUSIFORM RUST, caused by Cronartium fusiforme (Hedge.) Hunt

NORTH CAROLINA — Preliminary results of an evaluation to determine the feasibility of testing select southern pine seed lots for resistance to fusiform rust were very promising. On the basis of results to date, the method will be tested on an operational scale in early 1973 by the Forest Pest Management Group in Asheville.

NURSERY AND SEED ORCHARD DISEASES

CYLINDROCLADIUM ROOT ROT, Cylindrocladium scoparium Morgan and C. floridanum Sobers & Seymour

SOUTH CAROLINA — Cylindrocladium floridanum was recently isolated from 1-0 diseased black walnut seedbeds at the Piedmont State Nursery near Walhalla (northwestern), South Carolina. It was estimated that 100,000 walnut seedlings were lost. Cylindrocladium root rot symptoms have also been observed in 1-0 yellow-poplar seedbeds at the Coastal State Nursery near St. George (south-eastern), South Carolina.

TENNESSEE — In October 1972, C. scoparium was isolated from diseased 1-0 yellow-poplar at the pinson State Nursery near Jackson (western) Tennessee. A limited field survey has revealed that as much as 50 percent of this year's 300,000 yellow-poplar seedling crop may have various degrees of root rot. C. floridanum and C. scoparium have been isolated from both yellow-poplar and black walnut at this nursery in past years.

Therefore, the above observations bring the known distribution of Cylindrocladium root rot (C. scoparium or C. floridanum) in southern forest tree nurseries to 14 in 8 states.

BROWN SPOT, caused by Scirrhia acicola (Dearn.) Siggers

NORTH CAROLINA — Brown spot disease symptoms and localized damage (4 to 5 seedbeds) have been observed on the 2-0 white pine at the Edwards State Nursery at Morganton, North Carolina.

BROWN SPOT (Cont'd)

SOUTH CAROLINA — Brown spot disease symptoms and widespread damage were observed in 2-0 white pine seedlings at the Piedmont State Nursery near Walhalla, S. C., in October 1972. Approximately 40,000 white pine are affected. The South Carolina Commission of Forestry has elected to hold these seedlings over until 1973 and consequently, their white pine seedling crop has been eliminated for this year.

TENNESSEE — Good control for brown spot needle blight on 2-0 and 3-0 eastern white pine was achieved this year at the Pinson State Nursery using Bordeaux mixture (8-8-100) at monthly applications from May-October. Results of a cooperative control evaluation with the Tennessee Division of Forestry also showed that Bordeaux mixture was most effective in controlling this disease. This is the nursery where approximately 0.5 million each of 2-0 and 3-0 white pine were severely damaged by brown spot in 1971.

BLACK ROOT ROT, caused by Sclerotium bataticola, Taub.

FLORIDA — Black root rot has caused significant damage to 1-0 slash and loblolly pines at the Lee Nursery operated by the St. Regis Paper Company near Lee, Florida. This root rot damage occurred following treatments with gel and gas methyl bromide formulations.

GEORGIA — Isolations from loblolly pine roots sampled at the Theodore W. Earle Nursery near Statesboro, Georgia revealed the black root rot fungus, Sclerotium bataticola. Black root rot is characterized by dwarfing of seedlings but relatively little foliage discoloration. Hot dry weather favors disease development and root rot damage in southern nurseries.

PHOMOPSIS BLIGHT, caused by Phomopsis juniperovora, Hahn.

SOUTH CAROLINA — Significant damage resulting from Phomopsis blight occurred on the 1-0 eastern red cedar at the Piedmont State Nursery in northwestern South Carolina.

DIEBACK OR TIP BLIGHT OF BALD CYPRESS

SOUTH CAROLINA — This as yet unidentified disease has affected several hundred 1-0 bald cypress seedlings at the Coastal State Nursery near St. George, South Carolina.

PHYTOPHTHORA ROOT ROT, caused by Phytophthora sp.

NORTH CAROLINA — Phytophthora root rot, caused by several species of Phytophthora, has caused localized damage to five-year-old (3-2) Fraser fir seedlings at the Linville River State Nursery near Crossmore, (western mountains) North Carolina. Several species of Phytophthora have repeatedly been isolated from both symptomatic and dying seedlings and

PHYTOPHTHORA ROOT ROT (Cont'd)

NORTH CAROLINA (Cont'd)

rhizosphere soil in several nursery seedbeds. Isolations have been performed by pathologists from Forest Pest Management, Asheville, N. C. and North Carolina State University at Raleigh, North Carolina. Culling practices are being planned by nursery personnel to cull out and burn all symptomatic diseased seedlings. This year's seedling crop involves approximately 108,000 Fraser fir which range in value from $45.00 to $145.00 per thousand.

DAMPING OFF AND ROOT ROT, caused by Fusarium sp.

LOUISIANA

Fusarium has been found in container grown longleaf pine seedlings being grown in a greenhouse at the Stuart Seed Orchard. Last spring the same problem caused widespread damage to pine seedlings and was especially damaging on longleaf pine. This fall we have been following the development of the seedlings since planting with weekly inspections for disease development. It is hoped that this early detection followed by drenching with fungicides will prevent intensification of the disease. In addition to longleaf pine, other pine species being grown include shortleaf, loblolly, slash and eastern white pine.

SUMMER CHLOROSIS

General summer chlorosis and stunt seedlings were prevalent in a number of nurseries in the South this summer.

Although causes of chlorosis are imperfectly understood, treatment with an iron-chelate often improves the appearance of the seedlings. This summer many seedlings failed to respond satisfactorily to this treatment. Examination of the seedlings indicated that they usually had poorly developed root systems. Likely, the activity of fungi earlier in the year restricted the development of the root systems to the extent that the seedlings were unable to develop properly under the rather dry conditions which existed this summer.

FUSIFORM RUST, caused by Cronartium fusiforme (A. & K.) Hedge. & Hunt

MISSISSIPPI

Fusiform rust is becoming a problem on longleaf pine at the Erambert Seed Orchard. A number of trees of this "resistant" species have become infected. It is likely that seed orchard culture has increased the susceptibility of the trees to the rust over that which existed in nature. Also, it is possible that these trees are now exposed to different races of the rust to which they are less resistant.

PITCH CANKER caused by Fusarium lateritium, F. sp. pini (Hept.)

FLORIDA

Pitch canker continues to attack scattered stands in Florida's northern piney woods. In 1969, attacks were confined to northern and northeastern Florida. This year a 4,000-acre plantation in northwestern

PITCH CANKER (Cont'd)

FLORIDA

Florida near Panama City was detected with a 30 to 40 percent pitch canker incidence.

A 2-year evaluation of the 1969 outbreak in a 200-acre plantation has revealed that severely infected stands are actually capable of recovery to produce a pulpwood crop. In 1969, 33 percent of the trees were infected. The loss appeared to be so severe that the owner considered liquidating the plantation. However, the 1971 evaluation revealed that only 6.7 percent of the plantation's trees were lost as crop trees. The rest completely recovered except for bole deformities due to death of terminal leaders. The actual growth loss due to disease over the 2-year period was not ascertained.

SENNA SEYMERIA (Seymeria cassioides (Walt.) Blake

FLORIDA

A 50-acre 2-year-old slash pine plantation has been recently found to contain considerable damage due to the parasitic plant, senna seymeria. Approximately 30 percent of the seedlings have been affected and 10 percent of these are dead. Trees not already dead show signs of considerable stress, e.g. shortened needles, needles in tufts and ends of branches, and yellowing.

ATMOSPHERIC POLLUTANTS

NORTH CAROLINA

Ozone and/or sulfur dioxide have been postulated as the most probable cause(s) of a widespread needle tipburn on eastern white pine at the Beech Creek Federal Seed Orchard in western North Carolina. Some 25 white pine superior tree clones, involving approximately 950 trees obtained from three southern Appalachian State (N. C., Tenn., and Georgia) seed sources displayed characteristic needle tipburn and dwarfing symptoms this past summer. The degree of damage (needle symptoms) ranged from 25 to 75 percent on affected trees. Field evaluations have been initiated to determine the disease impact in this high-value seed orchard along with providing possible remedial action for the orchard manager.

FIGURE 1 - SOUTHERN PINE BEETLE-INFESTED AREA -- NOVEMBER 1972

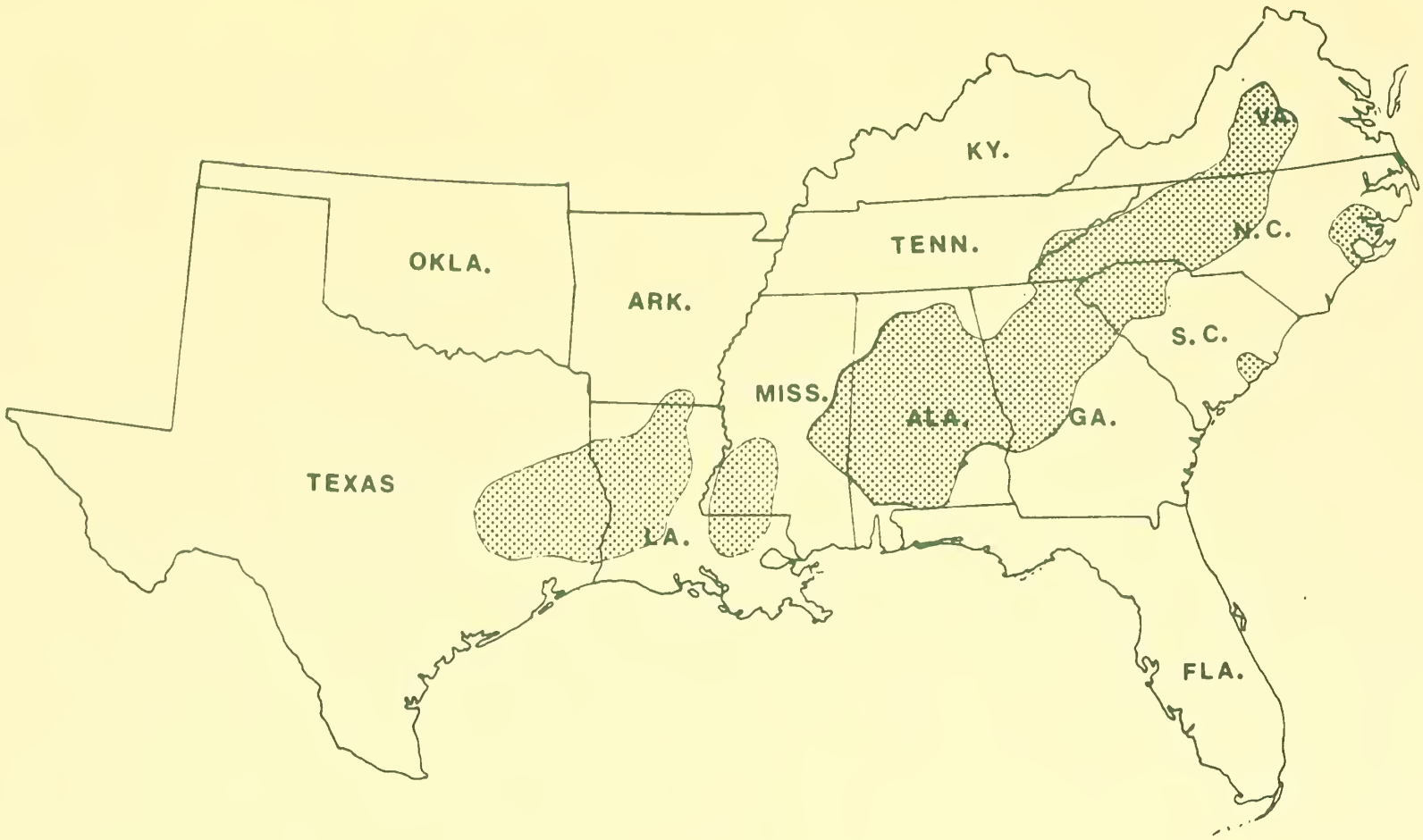


FIGURE 2 - DISTRIBUTION OF CYLINDROCLADIUM ROOT ROT IN SOUTHERN FOREST TREE NURSERIES - 1972

Legend

1. Parsons
2. Augusta
3. Charlottesville
4. Morgan County
5. Pennyrile
6. Jackson
7. Clinton
8. Morganton
9. Hendersonville
10. Clayton
11. Stoneville
12. Auburn
13. Piedmont
14. Coastal

★ Abandoned nurseries

● Nurseries with Cylindrocladium infection

More detailed information can be obtained by writing to the Forest Pest Management Group Field Offices listed below or the Atlanta Office:

FIELD OFFICES

FOR STATES OF:

Asheville Office

John L. Rauschenberger
Zone Supervisor
U. S. Forest Service
P. O. Box 5895
Asheville, North Carolina 28803

Phone: (704) 254-0961 Ext. 625

Florida
Georgia
Kentucky
North Carolina
South Carolina
Tennessee
Virginia

Alexandria Office

Donald A. Pierce
Zone Supervisor
U. S. Forest Service
2500 Shreveport Highway
Pineville, Louisiana 71360

Phone: (318) 445-6511 Ext. 311

Alabama
Arkansas
Louisiana
Mississippi
Oklahoma
Texas

AREA OFFICE

Amel E. Landgraf
Group Leader
Forest Pest Management
U. S. Forest Service
1720 Peachtree St., N. W., Room 702
Atlanta, Georgia 30309

Phone: (404) 526-3734